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U. S. DEPARTMENT OF AGRICULTURE

Movement of SHELL EGGS into Retail Channels in the Chicago Metropolitan Area

AMS 338

MARKETING RESEARCH DIVISION

AGRICULTURAL MARKETING SERVICE

U. S. DEPARTMENT OF AGRICULTURE

PREFACE

This study on the movement of eggs into retail channels in the Chicago metropolitan area is part of a broad program of research aimed at the improvement of current dairy and poultry market news reports published by the Agricultural Marketing Service, United States Department of Agriculture, and the establishment of similar reports in other metropolitan areas.

Phoebe A. Greenleaf, student trainee, the summer of 1958, assisted in conducting the mail survey and in analyzing the primary data; dairy and poultry market news specialists and market reporters in Chicago assisted in obtaining information necessary for developing the improved report; and many business establishments contributed the data used as a basis for this report.

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SUMMARY

The Market News Service of the U. S. Department of Agriculture regularly issues reports on current market prices and related market activities. The reports provide farmers, marketing firms, and others with information useful in making business decisions which affect the marketing of farm products.

The report on movement of eggs into retail channels at Chicago, started in 1941, is one of the regular weekly reports of the Service. Similar reports have long been issued in Los Angeles, San Francisco, and Seattle. These reports provide indications of current trends in volumes of eggs moving into retail outlets and out of commercial trade channels. They are also indicators of current changes in consumption and demand for eggs.

In June 1958, a study was initiated in Chicago to evaluate the accuracy and usefulness of the report and to develop, if necessary, an improved model. A complete survey of all firms known or thought to be moving eggs into retail channels in the Chicago metropolitan area showed that the timeliness, accuracy, and usefulness of the report could be improved materially. Revision of the report involved the following five steps:

(1) The universe of commercial egg handlers was defined and specified.

(2) The sample of reporting firms was increased from 16 to 87 and was made more nearly representative of all commercial egg handlers in the market. The volumes of eggs reported by sample firms nearly doubled, as a result, and now exceed 85 percent of the total commercial movement into retail channels.

(3) Instructions to cooperating handlers on what egg movements they should report were revised and made more clear.

(4) The traditional matched-plant basis of analysis of collected data was replaced by a more efficient and accurate estimating procedure.

(5) Public release of the report was moved up from Thursday to Tuesday of each week, covering movements into retail channels during the previous week. The report is published each week as the daily Dairy and Poultry Market News Egg Report.

Trial reporting on the new basis began in November 1958 and the first public release of the new report was made on February 10, 1959.

Further research is now in progress to revise similar reports now being issued in Los Angeles, San Francisco, and Seattle, and to develop new reports in other cities. All will be patterned on the Chicago model. At some future date it may be possible to combine the reports for many large urban areas into a national report which will provide accurate indications of current national trends in movements of eggs through retail channels to final consumers.

MOVEMENT OF SHELL EGGS INTO RETAIL CHANNELS IN THE CHICAGO METROPOLITAN AREA

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The Market News Service of the U. S. Department of Agriculture regularly collects and reports a vast amount of current information on market prices and closely related market activities. The purpose of this reporting is to provide farmers, marketing firms, and the general public with current market information essential for making marketing decisions which affect such elements as production, consumption, prices, and movements in the marketing of agricultural commodities. The Service, therefore, performs an essential function in an economy where the primary decision-makers are thousands of owners and managers of independent business firms whose activities are loosely coordinated through the operation of relatively free markets.

The most important requirements the Service must meet in performing its reporting functions are timeliness and accuracy. In general, the more rapidly the Service can gather, analyze, and report data on prices and related market events, the more valuable its reports are to the various users. For this reason, most market price reports are issued daily. Other reports, such as those on movements of products into trade channels, may have a weekly or longer cycle.

The problem of accuracy in reporting often is difficult to resolve. It requires that data be collected from a representative sample, or complete coverage, of all firms in the market. This, in turn, requires delineation of the universe of firms and development of appropriate sampling procedures. The reported information must have a specific and a practical meaning to all users. This requires a clear definition of the price or market activity on which data are reported. Such definitions should be in accord with prevailing market concepts and practices.

Since 1941, the Dairy and Poultry Market News Branch has issued weekly reports on the movement of eggs into retail channels at Chicago. Similar reports were later established in Los Angeles, San Francisco, and Seattle. These weekly reports on movements of eggs into retail channels have been on a matched plant basis and provide information only on the percentage changes of movements in the current week from the previous week and the same week a year ago. The reports have provided indications of changes in volumes of eggs moving out of the marketing system and into consumption. They are indicators of current demand for eggs in the market and are supplements to reports on prices, production, and other marketing factors and events.

At the request of the Dairy and Poultry Market News Service, research was initiated in June 1958 by the Marketing Research Division to explore the possibility of improving and expanding the four current reports of movements of eggs into retail channels. This is only one of the approaches used by the Market News Service to improve its reports. The Service is continually initiating new reports and improving old ones to conform to the rapidly changing structure of today's market.

The Chicago market was selected for a pilot study to develop and test a model report on movements of eggs into retail channels. A mail survey was made of all firms thought to be egg handlers in the metropolitan area to determine the size and nature of the universe of firms moving eggs into retail channels. The procedures and results of the survey are given in the appendix. Upon completion of the survey, new reporting procedures were developed and trial reporting was begun in November 1958. The first expanded and revised weekly report was issued to the public on February 10, 1959. Throughout the entire study the closest possible cooperation was maintained between the officers and reporters of the Service and research personnel.

EVALUATION OF THE OLD WEEKLY REPORT

From 1941 through 1958, the report on egg movements into retail channels at Chicago was based on data received from a small number of firms. The volume moved by these few firms may have been representative of the metropolitan area's entire movements of eggs into retail channels at one time. But many changes in egg marketing firms and marketing channels in Chicago made this sample obsolete. The chain food stores have grown tremendously in size, the old wholesale butter and egg jobber has practically disappeared. Modern wholesale distributors have increased their operations, concentrating on service to medium-size and small milk distribution companies, restaurants, institutions, retail food stores, and voluntary food chains. The egg broker who once moved some eggs into wholesale outlets is also leaving the marketing scene. From 1941 to 1958, as some firms in the original sample of reporting firms dropped out of the egg business, they were not replaced. This, coupled with the tremendous growth of the corporate food chains, caused reported movements to become out of balance with actual market movements.

The 1958 weekly report was based on information from only 16 firms. Seven of these 16 firms were large corporate chainstore organizations that moved more than 83 percent of the volume reported by the 16 firms in June 1958. Since the total movement by all chainstores in June 1958 actually was only 52 percent of the market total, the old report was overly influenced by data for the chains. For example, in the week ending January 10, 1959, when the new report indicated a 4-percent increase over the previous week in movements of eggs into retail channels, the old report, heavily influenced by chainstore activity, indicated a decrease in movements of 1 percent. This influence could readily be seen when most chains had, or did not have, special sales on eggs.

Movements of eggs by the wholesale distributors were grossly under-reported (see appendix). Furthermore, because of the small number of firms in the sample, the coverage of the old report was only about 33.6 percent of the estimated consumption of eggs in the Chicago metropolitan area (see appendix, footnote 1).

ESTABLISHMENT OF AN IMPROVED REPORT

Several major improvements in the weekly report were indicated by the results of the survey in Chicago. Basically, these changes would increase the representativeness and accuracy of the report and make it more valuable to the industry as an indicator of movements of eggs out of marketing channels into consumption.

The first improvement to put the report more in line with present marketing practices was to define and delineate the universe of commercial egg distributors in the Chicago metropolitan area. This universe can be defined as all firms located in the Chicago metropolitan area that move 100 or more (30-dozen) cases of eggs a week into the area's retail channels without duplicating eggs that are being reported by other firms. 1/ Firms of this size or larger move enough eggs into retail channels to justify weekly reporting. They are the principal firms in the Chicago egg market. Also, these firms move about 90 percent of retail egg movement shown in the entire survey of egg distributing firms in the area.

Firms in this statistical universe are of three types: (1) Wholesale distributors, (2) large corporate food chains, and (3) milk distribution companies. The other types of firms surveyed obtained practically all of their eggs from the distributors. Therefore, for ease and economy in weekly reporting, the Chicago area distributors were requested to report as movements into retail channels all sales to voluntary food chains and restaurant chains.

Only 74 of the 165 modern wholesale distributors were large enough to qualify for the commercial universe. These 74 firms were requested to report as movements into retail channels all sales to retail stores (except the large corporate food chains), hotels, restaurants, all other eating places, institutions, colleges, milk distribution companies, peddlers, and all households.

Of the 17 corporate food chains in the area, the 9 large chains purchased eggs from two sources--wholesale distributors and country shippers. These chains report their total weekly purchases as movements into retail channels; therefore, to avoid duplication in volume movements, wholesalers were requested not to report as movements into retail channels their sales to large corporate food chains. The other 8 corporate food chains handled less than the 100-case minimum volume and were not included in the commercial universe.

Of the 40 milk distribution companies who purchased eggs from country shippers and producers, only 4 were large enough to be members of the commercial universe.

Firms in each class are given explicit instructions on what volume movements should be reported into retail channels. Instructions must be precise and clear so that each firm will know exactly what it should report. The following instructions are composed of the necessary items:

1/ This minimum size is admittedly arbitrary, but it has the important practical advantages of including most of the eggs moved into retail channels and of restricting the total number of firms to a manageable number for reporting purposes.

(1) City wholesale distributors should report total deliveries in the Chicago metropolitan area to (a) all types of retail stores (excepting large corporate food chains), (b) hotels, restaurants, and other public eating places, (c) colleges, hospitals, and other institutions serving meals, (d) milk distribution companies, (e) peddlers, and (f) private households. They should not report sales to (a) large corporate food stores, (b) other wholesale distributors, (c) bakeries or other food manufacturers, or (d) brokers.

(2) Large corporate food chains should report total volumes of eggs moved weekly into all their metropolitan area retail channels. They should include direct deliveries to their retail stores by other firms as well as all other movements, from their warehouses, country plants, and other sources.

(3) Milk distribution companies that purchase all their eggs from sources outside the metropolitan area should report the total deliveries they make in the Chicago metropolitan area to (a) private households, (b) peddlers and subdealers, (c) retail stores of all types (except the large corporate food chains), (d) eating places of all types, and (e) institutions serving meals.

The second improvement was to increase the number of reporting firms from 16 to the commercial universe of 87. This readily increases the accuracy of the report. This increase in number of reporting firms improved the representation of the city wholesale distributors from about 12 percent of the total weekly reported movement to over 40 percent. It decreased the influences of the chain-store movements from about 83 to 57 percent. The remaining 3 percent is reported by the milk distribution companies. The volume reported by the commercial universe is nearly representative of the actual movements shown for the entire survey (table 1). 2/ The increase in the number of cooperating firms raised the volume reported from about 33.6 to 62.9 percent of the total estimated consumption of eggs in the metropolitan area (see appendix, footnote 1). The cooperating firms are to be commended for supplying timely and accurate weekly reports which make it possible to issue this type of marketing information.

The third major means of improving the Chicago report was the establishment of a new estimating procedure that enables the reporter to issue an estimate of the total cases of eggs moved into retail channels by all firms in the commercial universe. In the first month following the issuance of the report, it was necessary to estimate less than 5 percent of the reported volume. Since the new report is established on unchanging concepts and every plant in the universe has a bearing on the total volume reported each week for the Chicago metropolitan area, the published figures can be added to obtain movement data over a longer period of time. The new report shows the volume of eggs moved into retail channels for both the previous week and the current week. The first 4 weeks the revised report was in operation, an estimated 263,608 cases of eggs were reported moved into retail channels. The percentage change, which is still given, provides a good representation of the actual movements of eggs into the Chicago retail channels.

2/ Tables 1 to 3 are in the appendix.

The fourth and final improvement in the weekly report is credited to the dairy and poultry offices of the Market News Service for tabulating, summarizing, and issuing the report 2 days earlier than was previously possible. The cooperating firms also should be commended for supplying the Market News Service with the data essential to the issuance of the report. The timeliness and accuracy of the report have increased its value to the industry substantially. The weekly report is published every Tuesday in the daily Dairy and Poultry Market News Egg Report at Chicago.

CONCLUSIONS

The report on movement of eggs into retail channels was improved by using new reporting techniques, new definitions, and an estimating procedure. The report is now deemed accurate and highly representative of the entire metropolitan area egg market. However, to maintain its accuracy and representativeness, the Chicago market news reporters must keep abreast of the changes in the number and size of all egg marketing firms in the metropolitan area. This may necessitate an annual survey of all egg marketing firms to obtain information on (1) new egg handling firms that may become established in the metropolitan area, (2) current small egg handling firms that may grow and become eligible for reporting, and (3) current commercial egg handlers who may change their source of supplies, which might result in duplication in reporting. Any firm that meets the qualifications of the defined commercial universe should become a contact for reporting volume movements each week.

When the system of reporting estimated movements of eggs into retail channels can be initiated in other metropolitan areas, the estimates for each area can be added together to obtain an approximate national commercial movement into retail channels. For instance, if the report can be established in the 25 largest metropolitan areas which now have dairy and poultry market news offices, the total movement would cover approximately 40 percent of the total estimated consumption of shell eggs in the United States.

Finally, a national report of movements of eggs into retail channels combined with the newly developed Weekly Commercial Egg Movement Report 3/ could provide good indications of relative volumes of movements into and out of commercial marketing channels. That is, the two reports together could give useful indications of current egg supply-demand or supply-consumption conditions. Such current information should be valuable to those who are most active in making decisions on prices at all market levels, including prices to farmers, and on related marketing policies and practices.

3/ The Department of Agriculture issues the Commercial Egg Movement Report every Tuesday. Copies can be obtained by writing to the Agricultural Marketing Service, U. S. Department of Agriculture, Washington 25, D. C.

APPENDIX: CHICAGO SURVEY

Procedures

Questionnaires were mailed during the last week of June 1958 to 467 firms thought to be handling eggs in the Chicago metropolitan area. These firms were 269 wholesale egg distributors, 18 corporate food chains, 160 milk distribution companies, 11 restaurant chains, and 9 voluntary food chains. Three mailings and a followup telephone survey of nonrespondents were completed in the early fall of 1958. Complete coverage of all 467 firms was necessary to determine with full accuracy the universe of firms moving eggs into retail channels and the volumes of eggs they handled. Also, it was required to obtain a representative sample of firms that could report accurate movements that would represent the entire market.

Results

For June 1958, 289 firms reported handling shell eggs. Of the remaining 178 firms, 89 had gone out of business and 89 were not handling eggs. The total volume of eggs reported by the 289 firms was 489,112 (30-dozen) cases. Of these 289 firms, 283 reported moving 368,855 cases of eggs into various retail channels. However, after further analysis to remove duplication (the 61 firms who purchase eggs exclusively from Chicago wholesalers), the net total movement into retail channels was 309,036 cases by 222 firms (table 1). The volume of eggs moved by these 222 firms into retail channels in June 1958 was about 70 percent of the estimated consumption of 443,290 cases for that month in the Chicago metropolitan area. 1/

About 55 percent of the net movement into retail and other channels of 429,293 cases of eggs was reported sold as cartoned eggs. Country shippers supplied 65 percent of the cartoned eggs, and the remaining 35 percent were reported placed in cartons by firms in the Chicago metropolitan area.

Wholesale Egg Distributors 2/

Of the 269 wholesale distributors surveyed, 166 reported direct sales into retail channels; 7 handled eggs but did not move any into retail channels; 19 were out of business; and 29 did not handle eggs. The remaining 48 firms were duplicates, did not cooperate in the survey, or the questionnaires were unclaimed.

1/ The consumption estimate is based on the 1956 national annual per capita consumption rate of 343 shell eggs, a 1956 population estimate of 6,106,000, and the observation that reported retail movements in recent years indicate a decrease of retail sales in June of about 8 percent from the annual average. The margins of error in each of the three elements of the consumption estimate may or may not be large. The same, therefore, can be said of the estimate of 443,290 cases which is based on the annual average of 4.3 weeks per month.

2/ The term "wholesale egg distributors" covers several types of firms. Some are essentially jobbers; others are exclusively city distributors of eggs cartoned by country shippers; and some combine farm-assembly, candling, cartoning, and city distribution functions. A few are wholesalers of the traditional type which do not sell eggs to retail outlets.

Table 1.--Net movement of eggs into specified retail channels, by 3 reporting methods, Chicago, June 1958

Reporting method	Number of firms reporting 1/	Corporate food chains	Independent food stores	Milk distribution companies	Institutions	Noninstitutional eating places	Net total movement into retail channels
	Firms	Cases	Cases	Cases	Cases	Cases	Cases
Survey 2/	222	161,963	82,597	23,361	8,962	32,153	309,036
New report 3/	87	159,104	68,197	14,655	7,964	28,987	278,898
Old report	16	123,884	8,120	8,534	3,391	5,114	149,043

1/ Includes wholesale egg distributors, corporate food chains, and milk distribution companies.
2/ All known Chicago egg-handling firms.
3/ Firms moving 400 or more cases per month into retail channels.

In June 1958, the distributors handled more than half of the total commercial movement of eggs into Chicago retail channels when their sales to corporate food chains were included. However, excluding the 47,863 cases reported sold to large corporate food chains, the 166 distributors moved 132,239 cases of eggs into retail channels in June. This was 42.8 percent of the total retail movement. The distribution of these sales shown in table 2 was (1) to independent food stores and voluntary grocery chains, 62.5 percent; (2) to milk companies, 6.5 percent; (3) to institutions, 6.8 percent; and (4) to restaurant chains and all other eating places, 24.2 percent.

Table 2.--Egg sales by wholesale distributors to retail outlets and as percentage of net total movement into retail channels, by 3 reporting methods, Chicago, June 1958

Reporting method	Number of distributors reporting	Independent food stores	Milk distribution companies	Institutions	Noninstitutional eating places	Total sales to 4 outlets	
						Quantity	Percentage of net total movement
	Firms	Cases	Cases	Cases	Cases	Cases	Percent
Survey 1/	166	82,597	8,632	8,962	32,048	132,239	42.8
New report 2/	74	68,197	7,547	7,964	28,978	112,686	40.4
Old report	6	8,120	1,940	3,391	5,114	18,565	12.5

1/ All known Chicago egg-handling firms.
2/ Firms moving 400 or more cases per month into retail channels.

In addition, 76 distributors moved eggs into other types of outlets. These 76 and the 7 traditional wholesalers moved 120,257 cases of eggs to egg-breaking and processing plants, other area wholesalers, and to firms outside the metropolitan area.

The wholesale distributors received 45 percent of their total receipts directly from country shippers. Of these, 17 percent were in cartons; 24 percent came directly from independent and contract farmers; and the remaining 31 percent, of which 5 percent were in cartons, came from other area wholesalers.

Corporate Food Chains

Of the 18 corporate food chains surveyed, 17 moved eggs into retail channels and 1 small chain reported that it did not handle eggs. The 17 corporate food chains moved 161,963 cases of eggs through their own outlets in June 1958. This was 52.4 percent of the total retail movement in the market (table 3).

Table 3.--Retail sales of shell eggs, by source of supply, and nonwholesale purchases as percentage of net total movement into retail channels, by 3 reporting methods, Chicago, June 1958

Reporting method and type of firm	Number of retail outlets reporting	Total retail sales of shell eggs	Bought from wholesale distributors 1/	Bought from other suppliers	
				Quantity	Percentage of net total movement
	Firms	Cases	Cases	Cases	Percent
Survey: 2/					
Corporate food chains	17	161,963	---	161,963	52.4
Milk distribution companies	85	20,588	5,859	14,729	4.8
Restaurant chains	8	1,815	1,710	105	3/
Voluntary food chains	7	4,387	4,387	---	---
New report: 4/					
Corporate food chains	9	159,104	---	159,104	57.0
Milk distribution companies	4	7,108	---	7,108	2.6
Old report:					
Corporate food chains	7	123,884	---	123,884	83.1
Milk distribution companies	3	6,594	---	6,594	4.4

1/ Eggs reported as bought from wholesale distributors are deducted from totals to avoid duplication.
2/ All known Chicago egg-handling firms.
3/ Less than 0.05 percent.
4/ Firms moving 400 or more cases per month into retail channels.

Country shippers supplied 54 percent of the chains' egg receipts, of which 97 percent were in cartons. The remaining 46 percent came from Chicago wholesale egg distributors, 98 percent of them in cartons.

The corporate food chains reported purchases of 74,577 cases of eggs from city wholesale distributors in June, but the distributors reported that they sold only 47,863 cases of eggs to these food chains. This discrepancy apparently results from inclusion by the chains of purchases from several country plants controlled by city distributors who did not include these volumes in their reported sales. These large food chains reported receipts of shell eggs from about 10 distributors. Direct purchases of eggs from country shipping points by large corporate food chains is one of the many important changes taking place in today's egg market structure.

Milk Distribution Companies

Of the 160 milk distribution companies surveyed, 85 reported sales of eggs; 55 did not handle eggs; 10 were out of business; and the remaining 10 were duplicates or could not be located.

The 85 milk companies reported that 20,588 cases of eggs moved through their retail outlets in June 1958. Of these, 5,859 cases came from Chicago wholesale distributors. The remaining 14,729 cases, of which 22 percent were in cartons, were received from country shippers, producers, and their own production. These 14,729 cases were handled by 40 companies and are the net movement into retail channels by all milk companies (table 3).

Restaurant Chains

Eleven restaurant chains were surveyed and 8 reported handling 1,815 cases of eggs (table 3). About 6 percent of the reported volume came from sources outside the metropolitan area; that is, about 94 percent of the volume moved into retail channels by these firms were obtained from Chicago distributors.

Voluntary Food Chains

Nine voluntary food chains were surveyed. Two did not handle eggs, and the remaining seven purchased all of their eggs from city wholesale distributors. The seven voluntary chains reported that 4,387 cases of cartoned eggs were moved through their individual stores (table 3). In many instances the individual stores made purchases of eggs through sources other than the central office. These purchases were not obtained in this survey.